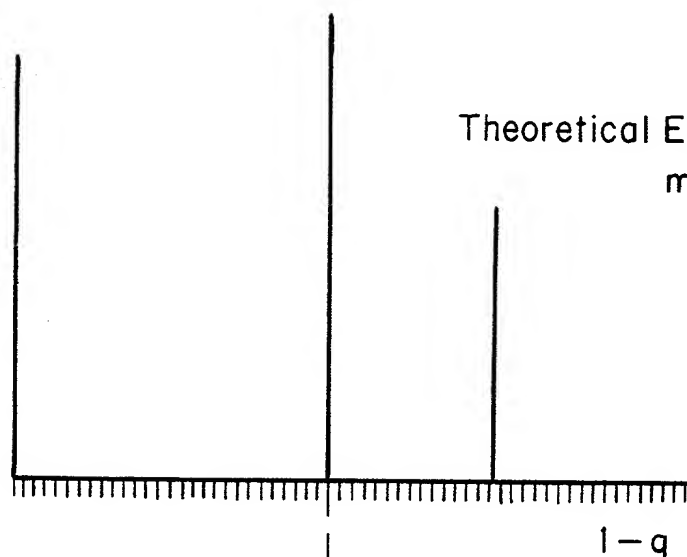


# FIG. 1

Actual Error Rate of a Natural  
Replication System:  $m < \ln s(1-q)^{-1}$



Increase of Incorporation Error  
Rate (Decrease of q) Result in  
Replication Beyond Error Threshold

Extension of The Genome (m)  
Results in Shift of Theoretical  
Error Threshold (Possibly to  
Beneath The Actual Error  
Threshold )

Decrease of Superiority Factor (s)  
of The Optimum Sequence  
(Ribozyme, Nuclease ) Results in  
Shift of Theoretical Error Threshold  
( Possibly to Beneath The Actual  
Error Threshold )

FIG. 2

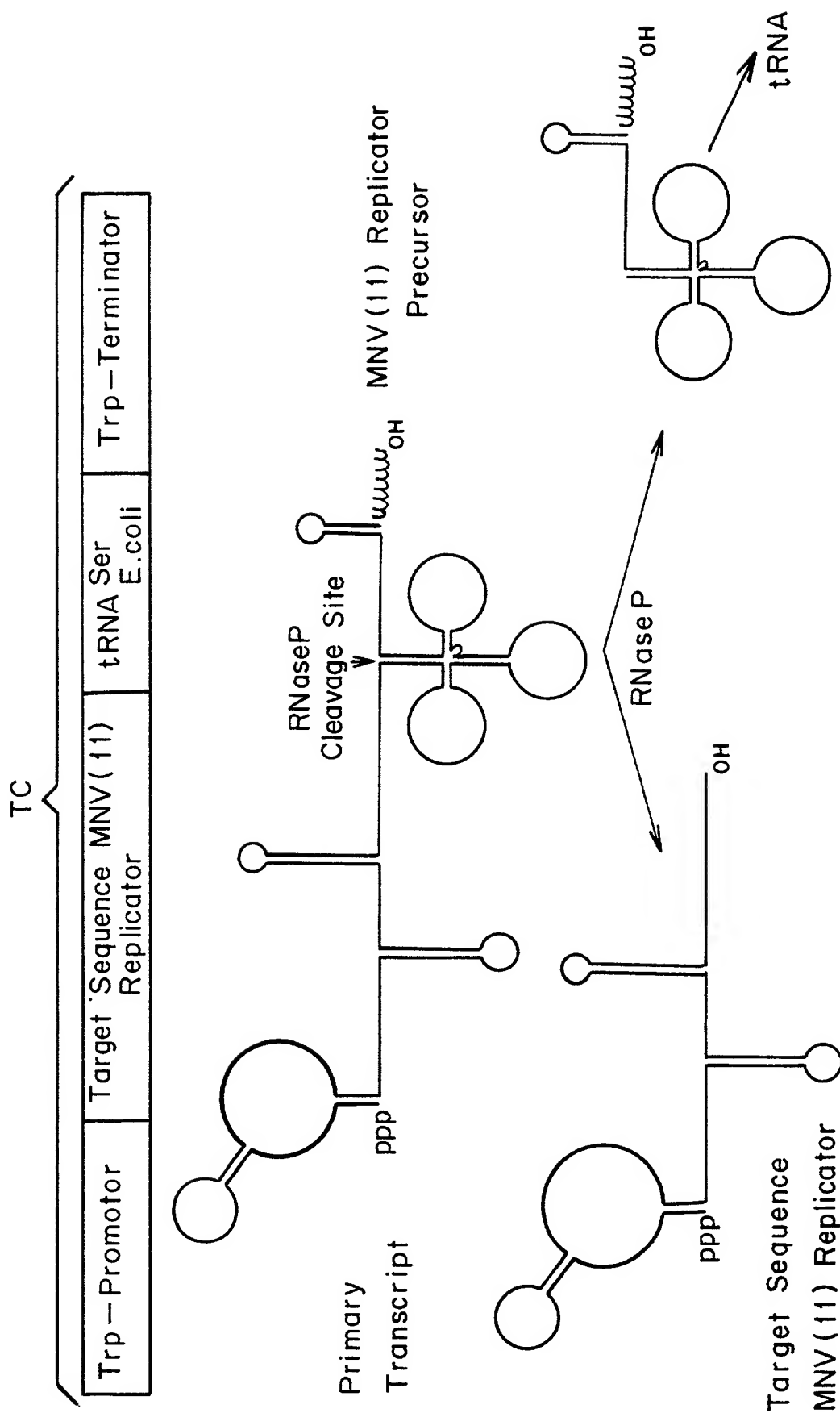
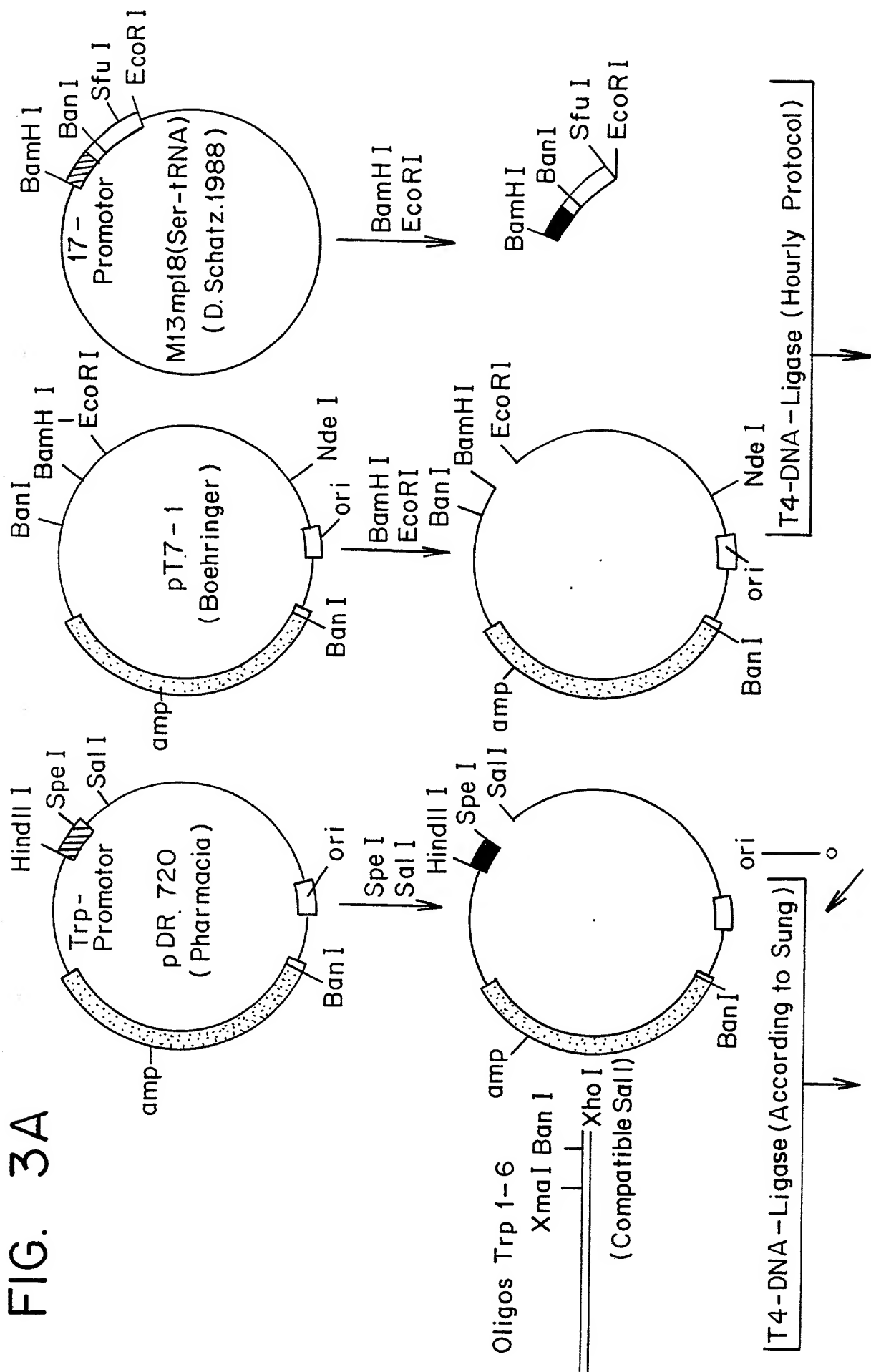


FIG. 3A



# FIG. 3B

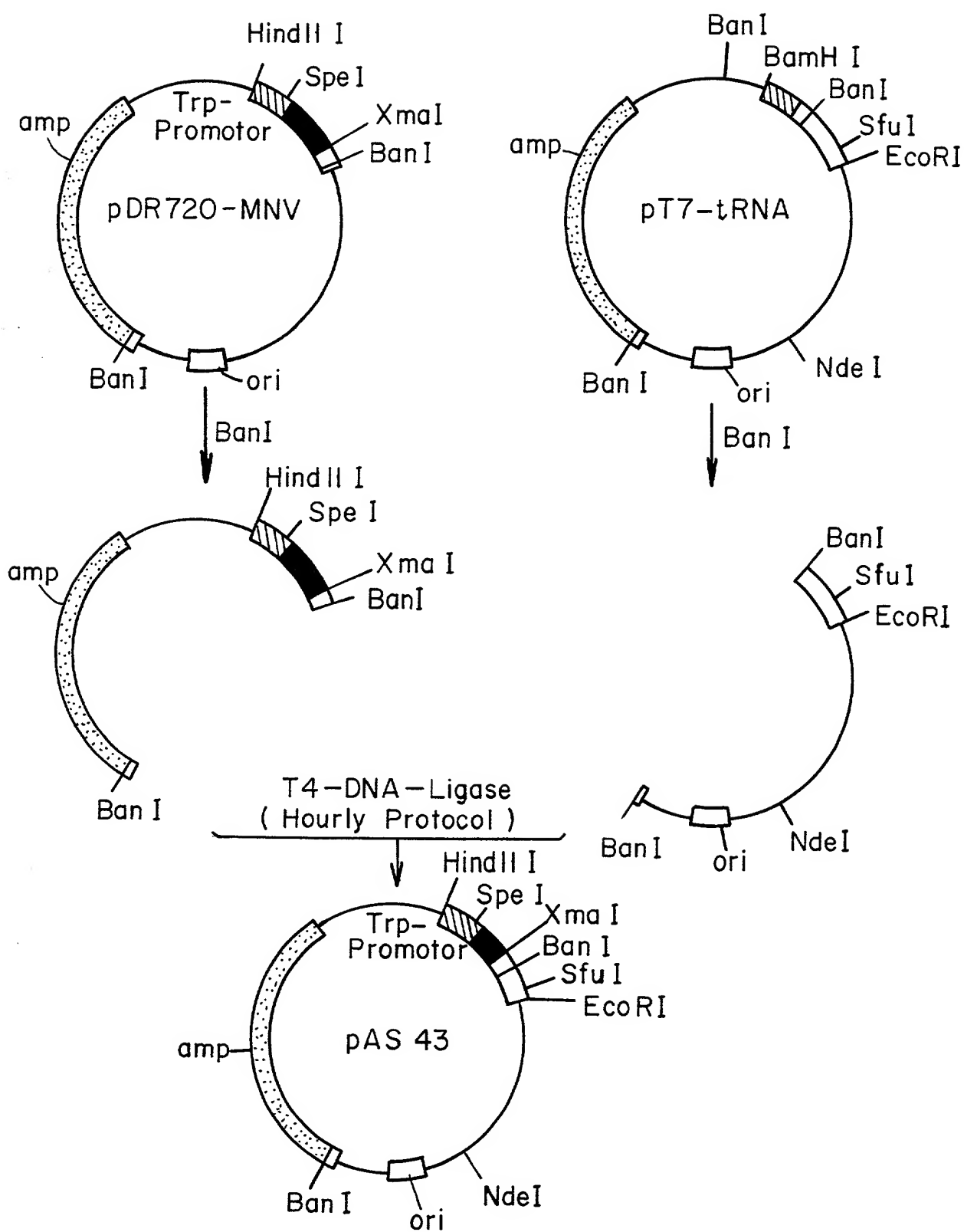


FIG. 3C

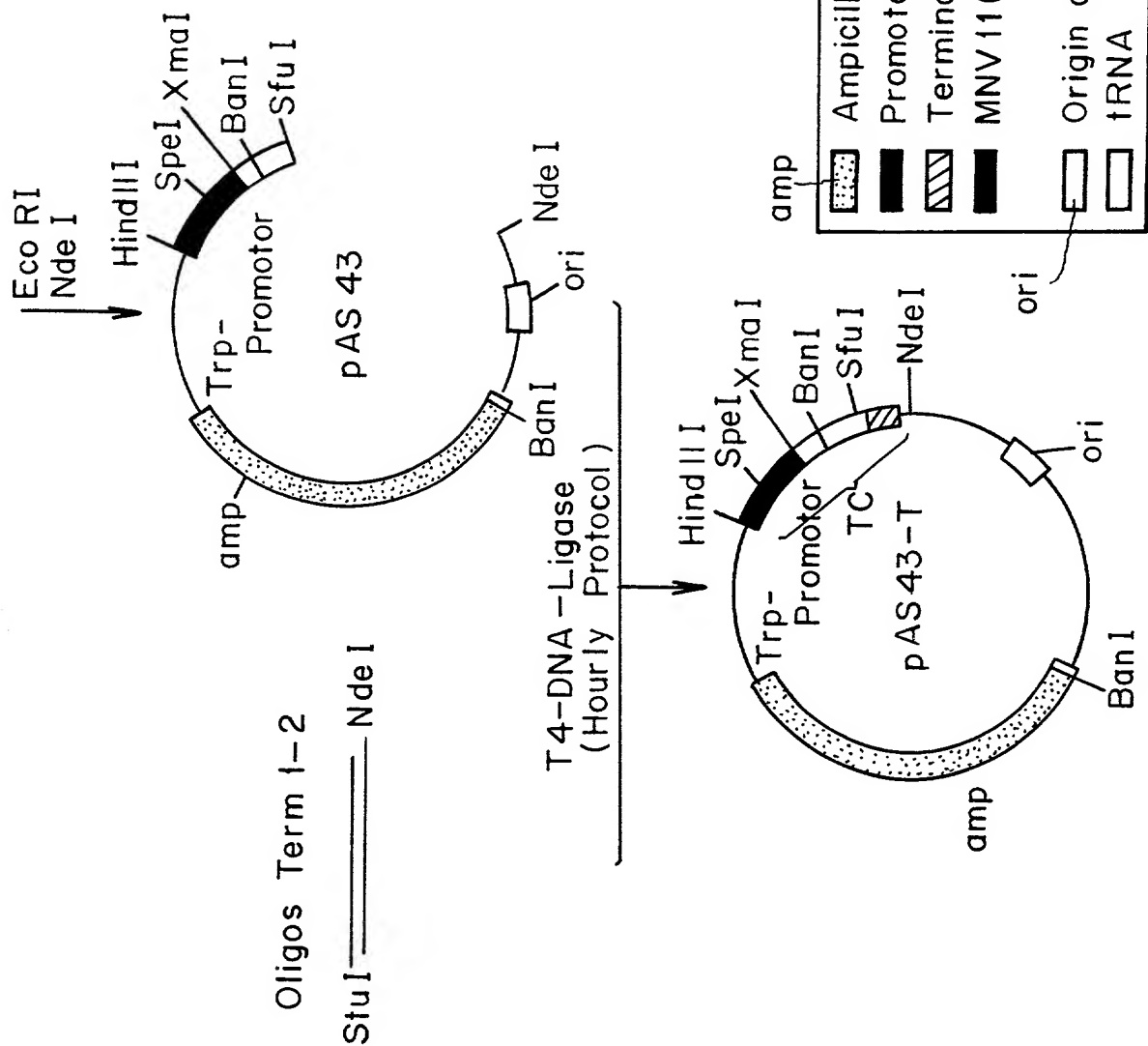
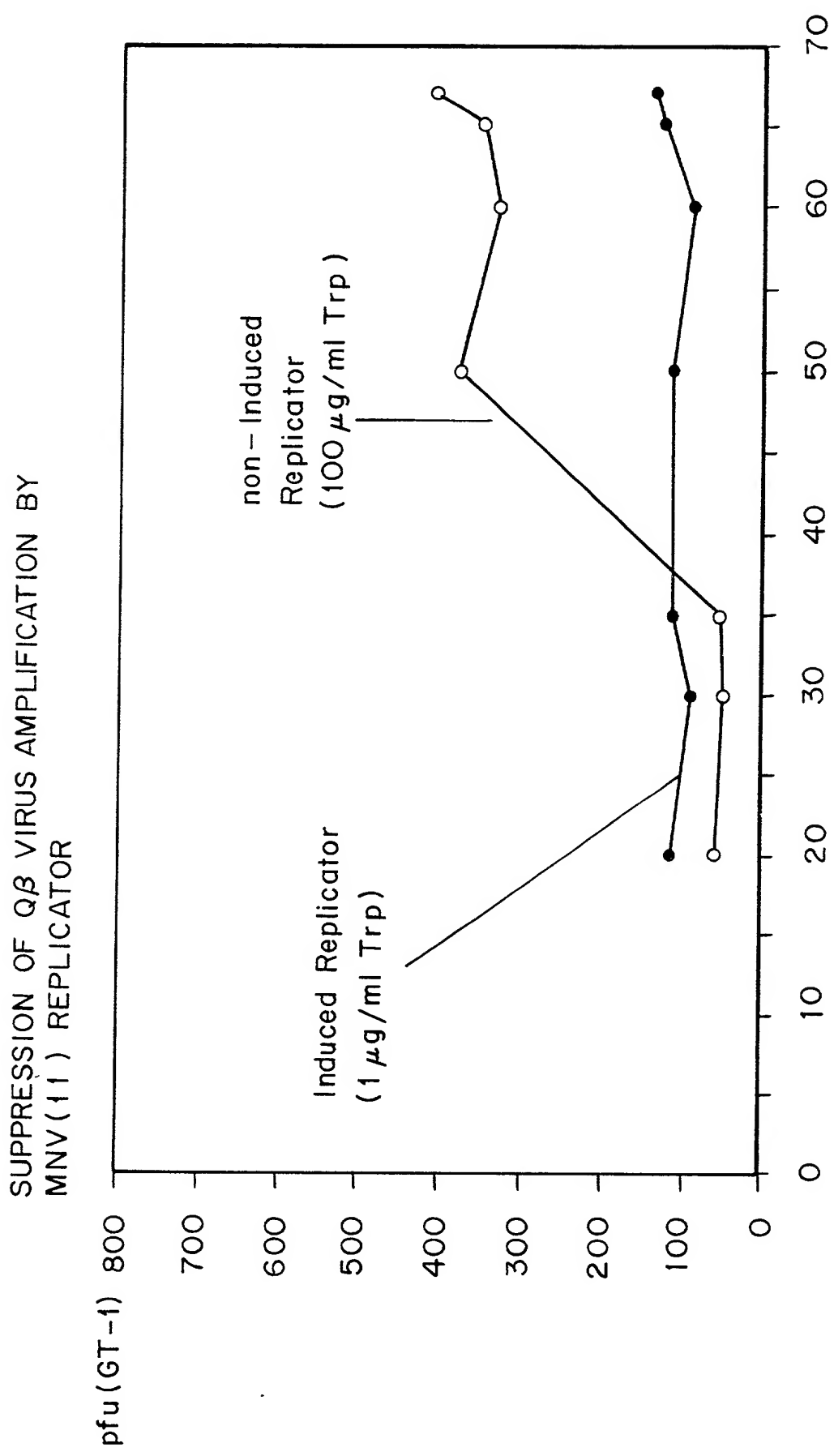
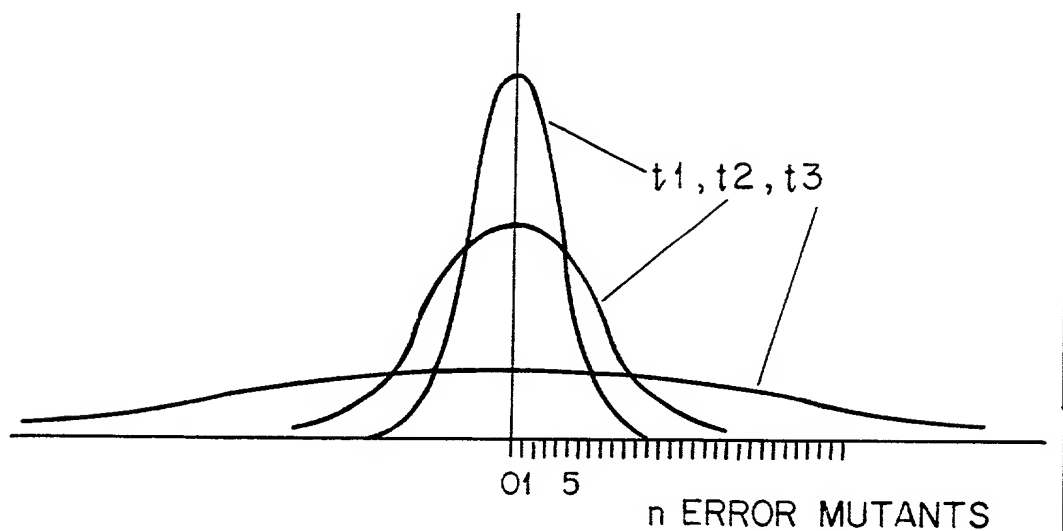


FIG. 4



# FIG. 5

QUASI SEPCIES DISTRIBUTION WITH PROCEEDING  
REPLICATION TIME  $t_1, t_2, t_3,$



ANALYSIS OF QUASI SPECIES DISTRIBUTION

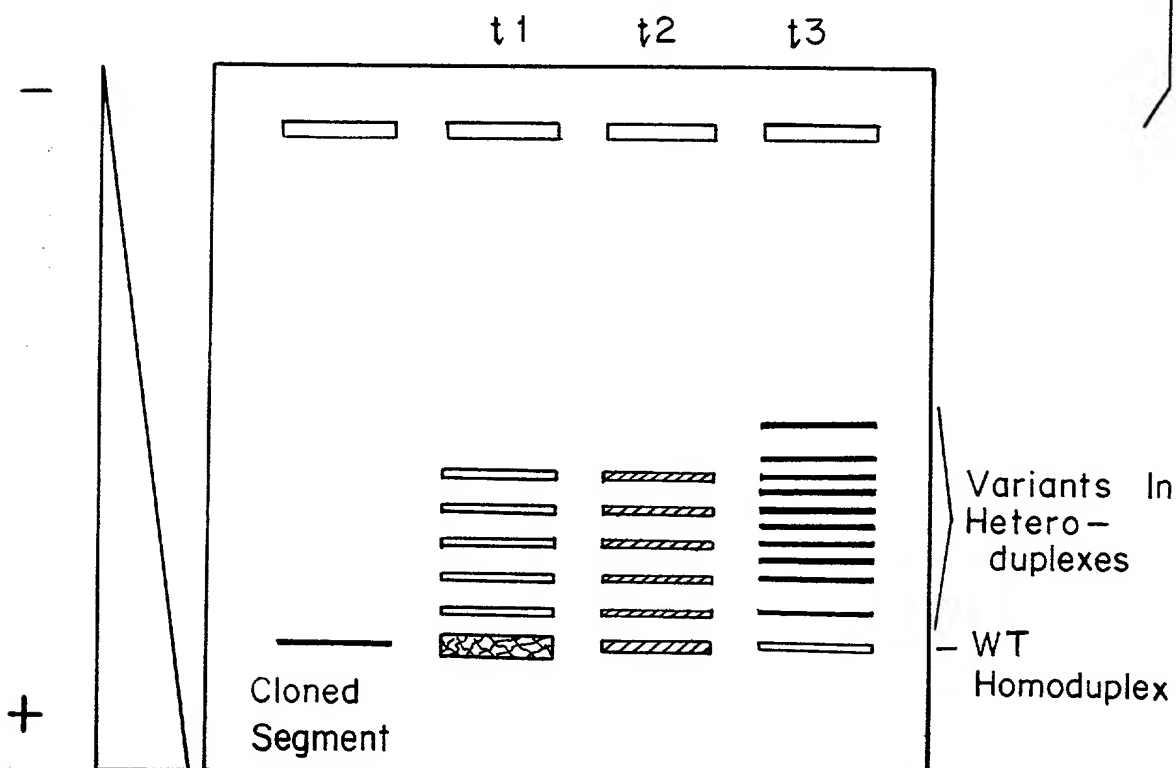


FIG. 6

ANALYSIS OF CLONED POLYMERASE GENES BY QUANTITATIVE  
DETERMINATION OF THE MUTATED SYNTHESIS PRODUCTS

